Amendments to the claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of claims:

Claim 1 (currently amended): A ground pad structure for preventing solder extrusion in a semiconductor package, the semiconductor package having a substrate comprising a dielectric layer and a solder mask layer on the dielectric layer, the solder mask layer having a plurality of openings, the ground pad structure comprising:

a ground plane, which is made of a conductive material and provided on the dielectric layer and covered by the solder mask layer of the substrate; and

a plurality of ground pads formed on the ground plane and exposed from the openings of the solder mask layer;

wherein a part of the ground pads, which are located on the circumference of the ground plane, are non-solder mask defined ground pads protruding from and partially extending from the circumference of the ground plane, such that a portion of the dielectric layer surrounding the non-solder mask defined ground pads is exposed from the solder mask layer.

Claim 2 (canceled)

Claim 3 (original): The ground pad structure for preventing solder extrusion of claim 2, wherein the ground pads are arranged in a matrix array.

Claim 4 (original): The ground pad structure for preventing solder extrusion of claim 2, wherein the ground plane is disposed on a central portion of the substrate of the semiconductor package.

Claim 5 (currently amended): A semiconductor package having a ground pad structure for preventing solder extrusion, comprising:

a substrate, which has a dielectric layer, a plurality of conductive traces disposed above and beneath the dielectric layer, and a solder mask layer for covering the conductive traces and the dielectric layer and having a plurality of openings, wherein a non-ground pad is formed on a terminal of each of the conductive traces and exposed from one of the openings;

a ground pad structure, which has a ground plane made of a conductive material, and a plurality of ground pads formed on the ground plane, wherein the ground plane is provided on the dielectric layer of the substrate and covered by the solder mask layer, and the ground pads are exposed from the openings of the solder mask layer, and wherein a part of the ground pads, which are disposed on the circumference of the ground plane, are non-solder mask defined ground pads protruding from and partially extending from the circumference of the ground plane, such that a portion of the dielectric layer surrounding the non-solder mask defined ground pads is exposed from the solder mask layer;

a semiconductor chip, which has an active surface and a corresponding inactive surface, the active surface being formed with a plurality of non-ground conductive metal solder means and ground conductive metal solder means so as to electrically solder the non-ground conductive metal solder means and ground conductive metal solder means of the semiconductor chip to the corresponding non-ground pads and ground pads on the substrate;

an encapsulant body, which encapsulates the semiconductor chip, the conductive metal solder means, the solder mask layer, and the portion of the dielectric layer surrounding the non-solder mask defined ground pads; and

a plurality of conductive elements implanted under the substrate.

Claim 6 (original): The semiconductor package having a ground pad structure for preventing solder extrusion of claim 5, wherein the semiconductor package is a flip-chip semiconductor package.

Claim 7 (original): The semiconductor package having a ground pad structure for preventing solder extrusion of claim 5, wherein the dielectric layer is made of an insulative material selected from the group consisting of Bismaleimide Triazine Resin, Polyimide, FR-4 Resin and FR-5 Resin.

Claims 8-9 (canceled)

Claim 10 (original): The semiconductor package having a ground pad structure for preventing solder extrusion of claim 5, wherein the non-ground pads are non-solder mask defined non-ground pads.

Claim 11 (original): The semiconductor package having a ground pad structure for preventing solder extrusion of claim 10, wherein the non-solder mask defined non-ground pads are exposed from the openings of the insulative layer, each opening being sized larger than the corresponding non-ground pad for exposing the non-ground pad.

Claim 12 (original): The semiconductor package having a ground pad structure for preventing solder extrusion of claim 5, wherein the conductive metal solder means are solder balls or solder bumps.

Claim 13 (original): The semiconductor package having a ground pad structure for preventing solder extrusion of claim 5, wherein the conductive elements are solder balls.

Claim 14 (original): The semiconductor package having a ground pad structure for preventing solder extrusion of claim 5, wherein the non-ground pads and the ground pads are arranged in a matrix array.

Claim 15 (original): The semiconductor package having a ground pad structure for preventing solder extrusion of claim 5, wherein the ground plane is disposed on a central portion of the substrate.